EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	6	"5532738"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 13:25
L3	8	"2860306"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 12:26
L4	1	("2860306").URPN.	USPAT	OR	ON	2007/04/04 12:31
L5	8	("3577088").URPN.	USPAT	OR	ON	2007/04/04 12:31
L6	5	"6459818"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 12:35
L7	11	"6088470"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 12:35
L8	8	(Gershenson-Meir.in.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 13:26
L9	1	L8 and (turbid.clm.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 13:26
S1	93	(348/31.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/04 11:49
S2	0	("6963354").URPN.	USPAT	OR	ON	2007/04/02 12:17

EAST Search History

S3	26	("4143400" | "4359640" | "4862257" | "4920412" | "4964721" | "5034810" | "5082362" | "5084776" | "5091778" | "5117126" | "5164823" | "5181135" | "5181212" | "5198915" | "5231401" | "5241314" | "5270780" | "5276632" | "5343284" | "5371358" | "5442358" | "5446529" | "5457639" | "5506616" | "5530711" | "5822047").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 12:18
S4	33	("5446529").URPN.	USPAT	OR	ON	2007/04/02 12:23
S5	1	("6924887").URPN.	USPAT	OR	ON	2007/04/02 12:27
S6	1	("6724467").URPN.	USPAT	OR	ON	2007/04/02 12:34
S7	15	("20040012962" | "4107766" | "4419658" | "4649376" | "5103383" | "5109322" | "5177461" | "5216418" | "5572183" | "5898363" | "6000811" | "6007219" | "6222455" | "6317047" | "6724467").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 12:35
S8	11	("3689156" | "3802775" | "4129780" | "4274736" | "4508448" | "5243541" | "5270780" | "5534993" | "5822047" | "5877851" | "6133993").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 12:36
S9	3	("6633338").URPN.	USPAT	OR	ON	2007/04/02 12:43
S10	0	("6975360").URPN.	USPAT	OR	ON	2007/04/02 12:44
S11	9	("4888644" | "4926058" | "5093763" | "5430481" | "5452004" | "5550641" | "6088612" | "6633338" | "6650442").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 12:44
S12	2	("6348942").URPN.	USPAT	OR	ON	2007/04/02 12:58
S13	2	("6970578").URPN.	USPAT	OR	ON	2007/04/02 12:59
S14	7	("20040027919" | "5231401" | "5243541" | "5831724" | "5929453" | "6348942" | "6836285").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 12:59
S15	6	("4707128" | "5140463" | "5313261" | "5371368" | "5467122" | "5625458").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 13:00

EAST Search History

S16	13	("4515165" | "5140463" | "5142372" | "5203339" | "5227912" | "5275168" | "5299035" | "5349951" | "5353799" | "5369496" | "5371368" | "5416582" | "5418797").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 13:01
S17	26	("5625458").URPN.	USPAT	OR	ON	2007/04/02 13:01
S18	3	("5335070").URPN.	USPAT	OR	ON	2007/04/02 13:21
S19	175	(348/81.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 13:54
S20	2	"6982790"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 13:48
S21	2	("5459570" | "5565986").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 13:48
S22	0	("6982790").URPN.	USPAT	OR	ON	2007/04/02 13:49
S23	7	(348/81.ccls.) and (back with scatter$3 with light)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 15:21
S24	25	(348/122.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 14:29
S25	318	(356/342.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 14:42

EAST Search History

S26	23	("3361029" | "4298309" | "5115277" | "5132627" | "5176974" | "5208093" | "5302439" | "5410392" | "5451458" | "5519479" | "5543177" | "5635325" | "5790255" | "5824442" | "5824800" | "5916718" | "6055391" | "6255363" | "6296931" | "6391954" | "6570840" | "6668104").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 14:34
S27	0	("7151603").URPN.	USPAT	OR	ON	2007/04/02 14:35
S28	37	(356/342.ccls.) and (camera)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 14:51
S29	108	(396/28.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 14:52
S30	3	("4777501" | "5628034" | "6154610").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/02 14:54
S31	14	("4777501").URPN.	USPAT	OR	ON	2007/04/02 14:55
S32	0	("5826113").URPN.	USPAT	OR	ON	2007/04/02 15:09
S33	51	(348/50.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 16:30
S34	7	"5233415"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 16:20
S35	5	("5233415").URPN.	USPAT	OR	ON	2007/04/02 16:07
S36	1	("6115511").URPN.	USPAT	OR	ON	2007/04/02 16:29
S37	45	(348/124.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 16:33

EAST Search History

S38	2	(348/370.ccls.) and (back with scatter$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 16:35
S39	1	(348/370.ccls.) and (back near2 scatter$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/02 16:35
S40	2	("6603507").URPN.	USPAT	OR	ON	2007/04/02 16:35

[File 2] **INSPEC** 1898-2007/Mar W3

[File 5] **Biosis Previews(R)** 1926-2007/Mar W4

**File 5: BIOSIS has been enhanced with archival data. Please see HELP NEWS 5 for information.*

[File 6] **NTIS** 1964-2007/Apr W1

[File 8] **Ei Compendex(R)** 1884-2007/Mar W4

[File 34] **SciSearch(R) Cited Ref Sci** 1990-2007/Mar W4

[File 35] **Dissertation Abs Online** 1861-2007/Mar

[File 65] **Inside Conferences** 1993-2007/Apr 03

[File 71] **ELSEVIER BIOBASE** 1994-2007/Apr W1

[File 73] **EMBASE** 1974-2007/Apr 02

[File 95] **TEME-Technology & Management** 1989-2007/Apr W1

[File 98] **General Sci Abs** 1984-2007/Mar

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2007/Feb

[File 136] **BioEngineering Abstracts** 1966-2007/Dec

[File 143] **Biol. & Agric. Index** 1983-2007/Feb

[File 144] **Pascal** 1973-2007/Mar W4

[File 155] **MEDLINE(R)** 1950-2007/Mar 30

[File 172] **EMBASE Alert** 2007/Apr 03

[File 188] **Health Devices Sourcebook** 2004

[File 198] **Health Devices Alerts(R)** 1977-2007/Feb W4

[File 239] **Mathsci** 1940-2007/May

[File 434] **SciSearch(R) Cited Ref Sci** 1974-1989/Dec

[File 583] **Gale Group Globalbase(TM)** 1986-2002/Dec 13

**File 583: This file is no longer updating as of 12-13-2002.*

[File 603] **Newspaper Abstracts** 1984-1988

**File 603: This is a closed file.*

[File 483] **Newspaper Abs Daily** 1986-2007/Apr 03

[File 248] **PIRA** 1975-2007/Mar W1


```
Set     Items   Description
S1   10162364   S CAMERA?? OR CCD OR CHARGE()COUPLED()DEVICE?? OR (PHOTO?? OR
PICTURE?? OR MEDIA OR STILL?? OR IMAG?)(3N)CAPTUR? OR IMAG? OR PHOTO?? OR
PHOTOGRAPH?? OR PICTURE OR DIGITAL OR SCAN? OR CT OR COMPUTE??()TOMOGRAPHY OR
MRI OR MAGNET?()RESONANCE()IMAG???
S2     562404   S (LASER?? OR LIGHT OR ILLUMINAT??? OR RAY??)(3N)S1
S3     281566   S (SCAN? OR TIME()GAT??? OR ULTRASOUND OR GENERAT? OR
SCATTER??? OR BACKSCATTER?? OR BACK()SCATTER??? OR REFLECT??? OR GLARE OR GLOW
OR ATTENUAT???)(3N)S2
S4      84254   S (SUBTRACT??? OR MINUS OR DIFFERENCE?? OR CUT?? OR REMOV??? OR
CORRECT???)(3N)(AMPLITUDE?? OR MAGNITUDE?? OR INTENSIT???)
S5        350   S AU=(GERSHENSON, M? OR GERSHENSON M?)
S6    1498729   S (FIRST OR SECOND OR THIRD OR ONE OR TWO OR THREE OR 1 OR 2 OR
3)(3N)(LINE?? OR GRADUATION?? OR GRADAT??? OR MARK??? OR STENCIL?? OR
TEMPLATE??)
S7         31   S S3(3N)S4
S8         14   RD  (unique items)
S9          8   S S8 NOT PY>2004
S10       113   S S4(3N)S6
S11         0   S S10(10N)(S2 OR S3)
S12         0   S S10(20N)(S2 OR S3)
S13         1   S S10(S)(S2 OR S3)
S14         0   S S13 NOT SPECTROSCOPY
S15         2   S S10 AND (TURBID? OR BODY OR FOG? OR SMOG OR CLOUD??)
S16       297   S S3(3N)S6
S17         0   S S16(S)S4
S18         0   S S16 AND S4
S19         0   S S16 AND IMAG?()SUBTRACT???
S20         4   S S3(S)ULTRASOUND(S)IMAG???(3N)SUBTRACT???
S21         3   RD  (unique items)
S22         0   S IMAG???(3N)(SUBTRACT??? OR MINUS OR DIFFERENCE?? OR CUT?? OR
REMOV??? OR CORRECT???)(3N)AMPLITUDE??(S)S6
S23        16   S IMAG???(S)(SUBTRACT??? OR MINUS OR DIFFERENCE?? OR CUT?? OR
REMOV??? OR CORRECT???)(3N)AMPLITUDE??(S)S6
S24         7   RD  (unique items)
S25         5   S S24 NOT PY>2004
S26         5   S S25 NOT (S15 OR S21)
S27         4   S S26 NOT IQ
S28         0   S (S10 OR S16) AND S5
S29         0   S (S3 OR S4) AND S5
```

9/3,K/1 (Item 1 from file: 2) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC

05311496 **INSPEC Abstract Number:** A9303-6110F-002
Title: A method for correcting intensity in continuous scanning X-ray stress measurement
Author Li Jiabao; Kang Zengqiao; He Jiawen
Author Affiliation: Inst. of Metal Res., Acad. Sinica, Shenyang, China
Journal: Acta Metallurgica Sinica vol.28, no.5 p. B219-24

Publication Date: 18 May 1992 **Country of Publication:** China
CODEN: CHSPA4 **ISSN:** 0412-1961
Language: Chinese
Subfile: A
Title: A method for correcting intensity in continuous scanning X-ray stress measurement

9/3,K/2 (Item 2 from file: 2) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC

04478719 **INSPEC Abstract Number:** B89068889
Title: A gap setting method for X-ray lithography using dual gratings
Author Uchida, N.; Ishibashi, Y.; Hirano, R.; Kikuiri, N.
Journal: Journal of the Japan Society of Precision Engineering vol.55, no.5 p. 902-7

Publication Date: May 1989 **Country of Publication:** Japan
CODEN: JJPEAD **ISSN:** 0912-0289
Language: Japanese
Subfile: B
Abstract: ...the signal, the wafer stage was scanned for several microns in the gap direction. During **scanning**, diffraction **light intensity differences** and relative displacement of the wafer stage were sampled to calculate the regression line. The...

9/3,K/3 (Item 3 from file: 2) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC

02192857 **INSPEC Abstract Number:** A78045303
Title: A north-south asymmetry in the solar brightness
Author Wittmann, A.
Author Affiliation: Univ. Sternwarte, Gottingen, West Germany
Journal: Astronomy and Astrophysics vol.64, no.1-2, pt.1 p. 91-5

Publication Date: March 1978 **Country of Publication:** West Germany
CODEN: AAEJAF **ISSN:** 0004-6361
Language: English
Subfile: A
Abstract: ...limb variation of the quiet sun have been made along polar and equatorial diameters. The **intensities** have been **corrected** for **scattered light, image** blurring, and differential extinction. Radiative transfer calculations were used to interpret the measurements. A north...

9/3,K/4 (Item 1 from file: 5) **Links**
Fulltext available through: Proceedings of the National Academy of Sciences (PNAS) USPTO Full Text Retrieval Options
Biosis Previews(R)

16995051 **Biosis No.:** 200200588562
Quantitative imaging of cis-regulatory reporters in living embryos

Author: Dmochowski Ivan J (Reprint); Dmochowski Jane E; Oliveri Paola; Davidson Eric H; Fraser Scott E
Author Address: California Institute of Technology, 1200 East California Boulevard, M/C 139-74, Pasadena, CA, 91125, USA**USA
Journal: Proceedings of the National Academy of Sciences of the United States of America 99 (20): p 12895-12900 October 1, 2002 2002
Medium: print
ISSN: 0027-8424
Document Type: Article
Record Type: Abstract
Language: English

Abstract: A confocal **laser scanning** microscopy method has been developed for the quantitation of green fluorescent protein (GFP) as a... ...embryo. By using coinjected Texas red dextran as an internal fluorescent standard, the observed GFP **intensity** is **corrected** for variations in laser excitation and fluorescence collection efficiency. To relate the recorded image intensity... ...the embryos were lysed gently, and a fluorometric analysis of their contents was performed. Confocal **laser scanning** microscopy data collection from a single sea urchin blastula required less than 2 min, thereby...

9/3,K/5 (Item 1 from file: 8) **Links**
Ei Compendex(R)

05679704 **E.I Monthly No:** EIM8811-060037
Title: CHEMICAL LASER F//2 FLOW DISTRIBUTION STUDIES.

Author: Spencer, D. J.; Durran, D. A.
Corporate Source: Aerospace Corp, Los Angeles, CA, USA
Conference Title: Gas Flow and Chemical Lasers, Proceedings of the 6th International Symposium.
Conference Location: Jerusalem, Isr **Conference Date:** 19860908
E.I Conference No.: 11660
Source: Publ by Springer-Verlag (Springer Proceedings in Physics, v 15), Berlin, West Ger and New York, NY, USA p 198-202
Publication Year: 1987
ISBN: 3-540-17481-8
Language: English
Identifiers: FLOW DISTRIBUTION; SLIT NOZZLE **SCANNING**; CW HF CHEMICAL **LASER** ; SPATIAL RESOLUTION; **INTENSITY DIFFERENCE** SENSITIVITIES; DETECTION SENSITIVITY

9/3,K/6 (Item 1 from file: 95) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
TEME-Technology & Management

00614098 W92104064400
Titel chinesisch

(Ein Verfahren zur Intensitaetskorrektur bei der kontinuierlichen Spannungsmessung mittels Roentgenbeugung)
(A method for **correcting intensity** in continuous **scanning** X-**ray** stress measurement)
Li Jiabao; Kang Zengqiao; Hi Jiawen
Acad. Sinica, Shenyang, China; Xi'an Jiaotong Univ., China
Acta Metallurgica Sinica, v28, n5, ppB219-B224 , 1992
Document type: journal article **Language:** Chinese
Record type: Abstract
ISSN: 0412-1961
(A method for **correcting intensity** in continuous **scanning** X-**ray** stress measurement

9/3,K/7 (Item 1 from file: 155) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
MEDLINE(R)

10009329 **PMID:** 8142884
Analysis of crystalline lens coloration using a black and white charge-coupled device camera.

Sakamoto Y; Sasaki K; Kojima M
Department of Ophthalmology, Kanazawa Medical University, Ishikawa, Japan.
German journal of ophthalmology (GERMANY) Jan 1994 , 3 (1) p58-60 , **ISSN:** 0941-2921--Print **Journal Code:** 9206441
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

...of the tricolor filters and the spectral sensitivity of the CCD camera were used to **correct** the **scattering-light intensity** of each **image**. Coloration of the lens was expressed on a CIE standard chromaticity diagram. The lens coloration...

9/3,K/8 (Item 1 from file: 248) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
PIRA

00686698 **Pira Accession Number:** 40052952
Title: Robust Incremental Compensation of the Light Attenuation with Depth in 3D Fluorescence Microscopy
Authors: Kervrann C; Legland D; Pardini L
Source: J. Microsc. vol. 214, no. 3, 2004, pp 297-314
ISSN: 0022-2720
Publication Year: 2004
Document Type: Journal Article
Language: English
Abstract: Fluorescent signal intensities from confocal **laser scanning** microscopes require the **correction** of image **intensity**. An algorithm for the automatic correction of intensities ignores pixels where measurements deviate from the..

15/3,K/1 (Item 1 from file: 34) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02785558 **Genuine Article#:** MD361 **No. References:** 30
THE NATURE OF THE HIGH-LATITUDE B-TYPE BINARY, SU PISCIUM

Author: DUFTON PL; HOLMGREN D; CONLON ES; KEENAN FP
Corporate Source: QUEENS UNIV BELFAST,DEPT PURE & APPL PHYS/BELFAST BT7 1NN/ANTRIM/NORTH IRELAND/
Journal: ASTRONOMY AND ASTROPHYSICS , 1993 , V 278 , N1 (OCT) , P 68-72
ISSN: 0004-6361
Language: ENGLISH **Document Type:** ARTICLE (Abstract Available)
Abstract: ...to deduce a composite spectral type for this system. The relative strengths of the hydrogen **lines** in the **two** components implies a **magnitude difference** of DELTAB congruent-to 1.0 and allows spectral types of B3III and B5III to...
Research Fronts: 91-0028 002 (ABSOLUTE DIMENSIONS OF EARLY-TYPE ECLIPSING BINARY STARS; STELLAR MODELS; MAGELLANIC **CLOUDS**)
91-1572 001 (LARGE MAGELLANIC **CLOUD**; METAL-POOR STARS; STROMGREN PHOTOMETRY; GALACTIC THICK DISK)

15/3,K/2 (Item 2 from file: 34) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
SciSearch(R) Cited Ref Sci

02586242 **Genuine Article#:** LN547 **No. References:** 44
CO IN MESSIER-51 .1. MOLECULAR SPIRAL STRUCTURE

Author: GARCIABURILLO S; GUELIN M; CERNICHARO J
Corporate Source: IRAM,300 RUE PISCINE/F-38406 ST MARTIN DHERES//FRANCE/; IGN,CTR ASTRON YEBES/E-19080 GUADALAJARA//SPAIN/
Journal: ASTRONOMY AND ASTROPHYSICS , 1993 , V 274 , N1 (JUL) , P 123-147
ISSN: 0004-6361
Language: ENGLISH **Document Type:** ARTICLE (Abstract Available)
Abstract: ...the density wave.

The gas in the nuclear region also exhibits non-circular motions. Molecular **clouds** probably follow elliptical orbits and are trapped into a 'bar' aligned with the stellar bar... ...HII regions and HI envelopes, located at resonant positions.

The (CO)-C-12 J=2-1 to 1-0 **line intensity** ratio, **corrected** for the difference in beamsize, is congruent-to 0.7-0.8 all over the... ...7. These line intensity ratios are used to derive core-halo models of the molecular **cloud** complexes,

using LVG and Monte Carlo radiative transfer calculations. Different **cloud** models are derived for the center, the arms and the interarm gas. The mass fraction... ...approximately 50%) and from the arms to the nuclear region (congruent-to 60%). The CO **cloud** models reproduce also the HCN (1-0) line intensities observed by Rieu et al. (1992... ...12 and HCN line brightnesses in the halos.

The molecular column densities derived from the **cloud** models are factors of 3-5 smaller than those calculated with the 'standard Galactic' X... ...al. (1988). In particular, X is found smaller for the interarm gas than for the **clouds** in the arms, which suggests that the H-2 arm-interarm contrast is larger than...
Research Fronts: 91-4429 001 (HOT INTERSTELLAR-MEDIUM OF THE LARGE MAGELLANIC **CLOUD** ; HIGH GALACTIC LATITUDE; NEUTRAL GAS; DISK GALAXIES)

21/3,K/1 (Item 1 from file: 2) **Links**
INSPEC

03465828 **INSPEC Abstract Number:** A85062829, B85038120
Title: Cardiac image analysis corresponding to physical parameters
Author Akatsuka, T.; Matsuda, M.; Takeda, T.; Kuwako, K.; Sugishita, Y.; Akisada, M.
Author Affiliation: Dept. of Inf. Eng., Yamagata Univ., Japan
Conference Title: Proceedings of ISMII '84. IEEE Computer Society International Symposium on Medical Images and Icons (Cat. No. 84CH2047-9) p. 238-44
Editor(s): Duerinckx, A.; Loew, M.H.; Prewitt, J.M.S.
Publisher: IEEE Comput. Soc. Press , Silver Spring, MD, USA
Publication Date: 1984 **Country of Publication:** USA vii+467 pp.
ISBN: 0 8186 0544 8
U.S. Copyright Clearance Center Code: CH2047-9/84/0000-0238$01.00
Conference Sponsor: IEEE
Conference Date: 24-27 July 1984 **Conference Location:** Arlington, VA, USA
Language: English
Subfile: A B
Abstract: ...and analyzed in reference to each other. Actual experiments were then executed to analyze myocardial **ultrasound** and X-ray **image** quantitatively, using **subtraction** and densitometry techniques. The results are discussed and evaluated.

21/3,K/2 (Item 2 from file: 2) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
INSPEC

02929660 **INSPEC Abstract Number:** C82039938
Title: For the development of the medical image processing
Author Wani, H.
Author Affiliation: R/D Engng. Dept., Shimadzu Corp., Kyoto, Japan
Journal: Shimadzu Review vol.39, no.1 p. 53-8

Publication Date: 1982 **Country of Publication:** Japan
CODEN: SHHYAG **ISSN:** 0371-005X
Language: Japanese
Subfile: C
Abstract: ...of medical images, summarizing the applications of micro- and minicomputers in nuclear medicine, high-speed **image** reconstructers in X-**ray** computed tomographic **scanners**, video memory in **ultrasound imaging** equipment, and digital **subtraction** technique in digital radiology. In conclusion, the 'Physicists in Medicine' are expected to play an...

21/3,K/3 (Item 1 from file: 5) **Links**
Fulltext available through: custom link USPTO Full Text Retrieval Options
Biosis Previews(R)

10490782 **Biosis No.:** 199141003408
CONTRIBUTIONS OF ENGINEERING TO ADVANCES IN IMAGING TECHNOLOGY IN THE 1990S

Author: BRODY W R (Reprint)

Author Address: DEP RADIOLOGY RADIOLOGICAL SCI, JOHNS HOPKINS HOSP, 600 NORTH WOLFE STREET, BALTIMORE, MD 21205, USA**USA
Journal: Investigative Radiology 26 (5): p 485-489 1991
ISSN: 0020-9996
Document Type: Article
Record Type: Citation
Language: ENGLISH
Descriptors: DIAGNOSTIC **IMAGING DIGITAL SUBTRACTION** ANGIOGRAPHY X- **RAY COMPUTED TOMOGRAPHY** PHASED ARRAY **ULTRASOUND** NUCLEAR EMISSION TOMOGRAPHY

27/3,K/1 (Item 1 from file: 2) **Links**
INSPEC

01153261 **INSPEC Abstract Number:** B70025711
Title: Information transmission system and method
Inventor Quindar, R.V.
Assignee Internat. Telephone & Telegraph Corp
Patent Number: US 3461231 **Issue Date:** 690812
Application Date: 641116
Priority Application Number: US 411288
Country of Publication: USA
Language: English
Subfile: B
Abstract: ...signals in response to two adjacent scanning lines, respectively, each line of the input optical **image** thus being scanned twice with the second video signal thus being duplicative of the first video signal but delayed therefrom by the duration of **one** scanning **line**. The **first** and **second** video signals are compared and a third video signal is generated in response to any **amplitude difference** between the first and second video signals, thus increasing the redundancy of the third video... ...lines, as by combining the display tube with a camera tube which scans the displayed **image one line** behind the displayed **line**. The received **third** video signal is simultaneously compared with the fifth video signal to generate the fourth video signal in response to an **amplitude difference** between the received third and fifth video signals.

27/3,K/2 (Item 1 from file: 5) **Links**
Fulltext available through: ScienceDirect (Elsevier) USPTO Full Text Retrieval Options
Biosis Previews(R)

13131249 **Biosis No.:** 199698599082
Radial mass analysis of the flagellar filament of Salmonella: Implications for the subunit folding

Author: Yamashita Ichiro; Vonderviszt Ferenc; Mimori Yuko; Suzuki Hirofumi; Oosawa Kenji; Namba Keiichi (Reprint)
Author Address: Int. Inst. Adv. Res., Matsushita Electric Ind. Co. Ltd., 3-4 Hikaridai, Seika 619-02, Japan**Japan
Journal: Journal of Molecular Biology 253 (4): p 547-558 1995 1995
ISSN: 0022-2836
Document Type: Article
Record Type: Abstract
Language: English

Abstract: ...the core region that has been found in the density map recently deduced by helical **image** reconstruction from electron micrographs of frozen hydrated filaments. The molecular masses were estimated for four radial segments that correspond to the morphological domains identified in the map of helical **image** reconstruction. Then the domains were assigned to sequence positions by correlating the estimated masses with...

27/3,K/3 (Item 2 from file: 5) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
Biosis Previews(R)

07774847 **Biosis No.:** 198580083742
FOURIER ANALYSIS OF MULTI-GATED CARDIAC BLOOD-POOL DATA IN PATIENTS WITH CONGENITAL HEART DISEASES 2. ASSESSMENT OF DISEASES WITH COMPLEX CARDIAC ANOMALIES ESPECIALLY TETRALOGY OF FALLOT

Author: TAKEDA K (Reprint); MAEDA H; YAMAGUCHI N; NAKAMURA K; MATSUMURA K; NAKAGAWA T; SAKURAI M; AOKI K
Author Address: DEP RADIOLOGY, MIE UNIV SCH MED, JAPAN**JAPAN
Journal: Kaku Igaku 22 (4): p 501-509 1985
ISSN: 0022-7854
Document Type: Article
Record Type: Abstract
Language: JAPANESE

Abstract: ...between these 2 variables ($r = -0.830$, $P < 0.01$). On visual interpretation of functional **images**, the dynamic property of hypoplastic ventricles could be easily estimated in patients with TA or...

27/3,K/4 (Item 1 from file: 8) **Links**
Fulltext available through: USPTO Full Text Retrieval Options
Ei Compendex(R)

06514331 **E.I. Monthly No:** EIM9211-058209
Title: The Dartmouth electrical impedance tomography system for thermal imaging.

Author: Ryan, Thomas P.; Moskowitz, Michael J.; Paulsen, Keith D.
Conference Title: Proceedings of the 13th Annual International Conference of the IEEE Engineering in Medicine and Biology Society
Conference Location: Orlando, FL, USA **Conference Date:** 19911031
E.I. Conference No.: 17015
Source: Proceedings of the Annual Conference on Engineering in Medicine and Biology v 13 pt 1. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA (IEEE cat n 91CH3068-4). p 321-322
Publication Year: 1991
CODEN: CEMBAD **ISSN:** 0589-1019 **ISBN:** 0-7803-0216-8
Language: English
Abstract: An impedance measurement system was designed to develop a combined invasive/noninvasive thermal **imaging** method for hyperthermia cancer therapy. A 64-channel capacity was specified both for distributed current ... ...array of superfacial electrodes placed circumferentially around the internal plane of interest combined with from **1** to 4 **linear** arrays of 8 electrodes served both to inject currents and measure voltages. The frequency source... ...at the 16-b level. Current was delivered to all electrodes simultaneously, in phase with **amplitude** control (plus or **minus** 5.0 mA). Voltage measurements were sequentially recorded utilizing a programmable instrumentation amplifier and then.

[File 344] **Chinese Patents Abs** Jan 1985-2006/Jan

[File 347] **JAPIO** Dec 1976-2006/Nov(Updated 070228)

[File 350] **Derwent WPIX** 1963-2006/UD=IPCR200721

**File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit http://www.dialog.com/dwpi/.*

[File 371] **French Patents** 1961-2002/BOPI 200209

**File 371: This file is not currently updating. The last update is 200209.*

```
Set     Items   Description
S1    3390057   S CAMERA?? OR CCD OR CHARGE()COUPLED()DEVICE?? OR (PHOTO?? OR
PICTURE?? OR MEDIA OR STILL?? OR IMAG?)(3N)CAPTUR? OR IMAG? OR PHOTO?? OR
PHOTOGRAPH?? OR PICTURE OR DIGITAL OR SCAN? OR CT OR COMPUTE??()TOMOGRAPHY OR
MRI OR MAGNET?()RESONANCE()IMAG???
S2     217806   S (LASER?? OR LIGHT OR ILLUMINAT??? OR RAY??)(3N)S1
S3      71185   S (SCAN? OR TIME()GAT??? OR ULTRASOUND OR GENERAT? OR
SCATTER??? OR BACKSCATTER?? OR BACK()SCATTER??? OR REFLECT??? OR GLARE OR GLOW
OR ATTENUAT???)(3N)S2
S4      17482   S (SUBTRACT??? OR MINUS OR DIFFERENCE?? OR CUT?? OR REMOV??? OR
CORRECT???)(3N)(AMPLITUDE?? OR MAGNITUDE?? OR INTENSIT???)
S5         29   S AU=(GERSHENSON, M? OR GERSHENSON M?)
S6     524462   S (FIRST OR SECOND OR THIRD OR ONE OR TWO OR THREE OR 1 OR 2 OR
3)(3N)(LINE?? OR GRADUATION?? OR GRADAT??? OR MARK??? OR STENCIL?? OR
TEMPLATE??)
S7         90   S (S2 OR S3)(3N)S4
S8          4   S S7 AND S6
S9         38   S S7 AND IC=H04N?
S10         0   S S9 AND SUBTRACT???()AMPLITUDE??
S11        36   S S9 NOT AD=20040212:20070403/PR
S12         1   S S11 AND FIELD(1N)VIEW
S13         0   S S12 NOT S8
S14         0   S S7 AND ULTRASOUND()IMAG???
S15         0   S S7 AND ULTRASOUND
S16         0   S S11 AND S5
S17         0   S S5 AND IC=H04N?
```

8/3,K/1 (Item 1 from file: 350) **Links**
Derwent WPIX

0014505676 *Drawing available*
WPI Acc no: 2004-687595/200467
XRPX Acc No: N2004-544509
Multi-level segment mapping function generator for gamma correction system, has mapper that receives input value for scaling value to intermediate input value and another mapper receives intermediate input from former mapper
Patent Assignee: NEOMAGIC CORP (NEOM-N)
Inventor: LIN T

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6791576	B1	20040914	US 2000511013	A	20000223	200467	B

Priority Applications (no., kind, date): US 2000511013 A 20000223

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 6791576	B1	EN	14	11	

Alerting Abstract ... gamma correction system that is used in correcting the light intensity of a digital pixel e.g. **Y component** of YUV **pixel**, R, G, B components of RGB pixel in a television monitor and a computer monitor...

Original Publication Data by Authority

Original Abstracts:
Gamma correction or other power functions are generated for correcting the **light** intensity **for** digital **pixels**. **Two** levels **of** mapping of segments are preformed to reduce the total number of segments for a given... ... Gamma correction is performed on the input scaled into the largest second-level segment. A **linear** approximation within the **largest** second-level segment is used. The result is de-mapped or scaled down from the...

8/3,K/2 (Item 2 from file: 350) **Links**
Derwent WPIX

0008908933 *Drawing available*
WPI Acc no: 1998-458990/199840
XRPX Acc No: N1998-358407
Monocular location method for spatial location of moving object - involves using computer algorithm and geometric function to model traces of marks on moving objects recorded with video camera
Patent Assignee: CIE GEN MATIERES NUCLEAIRES SA (COGM); COGEMA CIE GEN MATIERES NUCLEAIRES (COGM); COMMISSARIAT ENERGIE ATOMIQUE (COMS)
Inventor: LETELLIER L; VIALA M

Patent Family (6 patents, 25 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 863413	A1	19980909	EP 1998400444	A	19980224	199840	B
FR 2760277	A1	19980904	FR 19972426	A	19970228	199841	E
JP 10253322	A	19980925	JP 199862038	A	19980227	199849	E
US 6300974	B1	20011009	US 199823854	A	19980213	200162	E
EP 863413	B1	20011219	EP 1998400444	A	19980224	200206	E
DE 69802980	E	20020131	DE 69802980	A	19980224	200216	E
			EP 1998400444	A	19980224		

Priority Applications (no., kind, date): EP 1998400444 A 19980224; FR 19972426 A 19970228

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
EP 863413	A1	FR	12	5	
Regional Designated States,Original	AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI				
JP 10253322	A	JA	10		
EP 863413	B1	FR			
Regional Designated States,Original	BE DE GB IT				

DE 69802980	E	DE			Application	EP 1998400444
					Based on OPI patent	EP 863413

Alerting Abstract ...Spatial location of an object (1), which has identifying luminescent **marks** (3), by determination of trace positions of the marks on an image taken with a camera...

Original Publication Data by Authority

Original Abstracts:
An attempt is made to localize an object (**1**) **with** marks (**3**) **in** space, **using** a video camera (**4**). A search is made for traces of the marks (**3**) on the image, to **deduce** the **directions** of the marks (**3**) in the camera (**4**) view field **and** the **position** of the object (**1**). The algorithm used includes a step in which marks are approximately... ... **3**) are preferably passive marks and may or may not be reflecting, and do not **emit** any **light**. The system is not very sensitive to parasite lighting.
...
Claims:
Verfahren zum raumlichen Lokalisieren eines Marken (3) tragenden Objekts (1), das **darin besteht**, Positionen von **Spuren** (13) der Marken (3) auf einem durch eine **Bildaufnahmeeinrichtung** (4) erstellten Bild (10) zu bestimmen und dann die Positionen der Marken (3) in Bezug auf die **Bildaufnahmeinrichtung** (4) ausgehend von den Positionen der Spuren (13) auf dem Bild (4) zu berechnen, **dadurch gekennzeichnet... ... positioning an object (1) carrying marks (3) in space, consisting of determining the positions of traces (13) of marks (3) on an image (10) taken with a camera (4), and then calculating the positions of the marks (3) with respect to the camera (4) using the positions of the traces (13) on the image (4), characterized in that it comprises a step to improve the... ... a difference in light intensity on the image between the trace (13) and the geometric shape function, the geometric shape function including a Gaussian light intensity function with variable parameters... ... positions of traces (13) of marks (3) on an image (10) taken with a camera (4), and then calculating the positions of the marks (3) with respect to the camera (4) using the positions of the traces (13) on the image (4), characterized in that it comprises a step to improve the determination of the positions of the traces (13) on the image (10) by modeling the traces (13) using predetermined geometric shape functions and calculating theb>1**), the geometric shape function **including a gaussian function** with variable **parameters** for modeling the light intensity within the shape function.

8/3,K/3 (Item 3 from file: 350) **Links**
Derwent WPIX

0007877505 *Drawing available*
WPI Acc no: 1996-509032/199651
XRPX Acc No: N1996-428915
Photo mask measuring device for lithography technology - has polarised state analyser that determines polarised state of straight line polarisations reflected from mirror surface
Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE)
Inventor: OZAKI Y

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 8261919	A	19961011	JP 199565778	A	19950324	199651	B

Priority Applications (no., kind, date): JP 199565778 A 19950324

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
JP 8261919	A	JA	7	6	

Alerting Abstract ...polarised state analyser (211) converts the parallel light irradiated from a light source (202) into **two** straight **line** polarisations which are further projected following a polarised direction to a beam splitter (214) that... ...The **two** straight **line** polarisations are condensed at the input to a first prism (205) and are divided again... ...go through a second prism (206) towards an objective lens (207) which irradiates the straight **line** polarisations to the **two** predetermined points of the photo mask. The straight line polarisations are reflected from a mirror... ...ADVANTAGE - Simply and **correctly** determines relative **amplitude** and relative phase **difference** between two **light** exposures irradiated on **photo** mask or any other penetrable objects.

8/3,K/4 (Item 4 from file: 350) **Links**
Derwent WPIX

0003963806
WPI Acc no: 1987-056194/198708
Image exposing appts. for photoelectric conversion image sensor - has light intensity distribution corrector arranged in light path for forming image to eliminate non-uniformity of light intensity
Patent Assignee: CANON KK (CANO)
Inventor: HONDA H; SETANI M; TOKUHARA M; TSUCHIYA H

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 4641944	A	19870210	US 1985745211	A	19850617	198708	B

Priority Applications (no., kind, date): JP 1984235217 A 19841109; JP 1984128363 A 19840621; JP 1984235216 A 19841109

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 4641944	A	EN	12	19	

...
has light intensity distribution corrector arranged in light path for forming image to eliminate non-uniformity of light intensity

Alerting Abstract ...for focusing an image onto a photosensitive member, the focusing optical system being constructed by **one-line** array of a number of converging light transmission media. A light intensity distribution corrector is...

Original Publication Data by Authority

...
Original Abstracts:
focusing optical system for focusing an image onto a photosensitive member and having a **one-line array** of a plurality of focusing light transmission media, and light intensity distribution correction means arranged...

[File 348] **EUROPEAN PATENTS** 1978-2007/ 200708

**File 348: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

[File 349] **PCT FULLTEXT** 1979-2007/UB=20070329UT=20070322

**File 349: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

```
Set     Items   Description
S1    1013704   S CAMERA?? OR CCD OR CHARGE()COUPLED()DEVICE?? OR (PHOTO?? OR
PICTURE?? OR MEDIA OR STILL?? OR IMAG?)(3N)CAPTUR? OR IMAG? OR PHOTO?? OR PHOTOGRAPH??
OR PICTURE OR DIGITAL OR SCAN? OR CT OR COMPUTE??()TOMOGRAPHY OR MRI OR
MAGNET?()RESONANCE()IMAG???
S2     116778   S (LASER?? OR LIGHT OR ILLUMINAT??? OR RAY??)(3N)S1
S3      49864   S (SCAN? OR TIME()GAT??? OR ULTRASOUND OR GENERAT? OR SCATTER??? OR
BACKSCATTER?? OR BACK()SCATTER??? OR REFLECT??? OR GLARE OR GLOW OR ATTENUAT???)(3N)S2
S4      28630   S (SUBTRACT??? OR MINUS OR DIFFERENCE?? OR CUT?? OR REMOV??? OR
CORRECT???)(3N)(AMPLITUDE?? OR MAGNITUDE?? OR INTENSIT???)
S5         16   S AU=(GERSHENSON, M? OR GERSHENSON M?)
S6     623243   S (FIRST OR SECOND OR THIRD OR ONE OR TWO OR THREE OR 1 OR 2 OR
3)(3N)(LINE?? OR GRADUATION?? OR GRADAT??? OR MARK??? OR STENCIL?? OR TEMPLATE??)
S7         42   S S3(3N)S4
S8          8   S S7 AND IC=H04N?
S9          5   S S7(40N)S6
S10         4   S S9 NOT S8
S11         0   S S5 AND IC=H04N?
S12         0   S (S2:S3) AND S5
S13        25   S (S1:S3 OR S7) AND SUBTRACT?()AMPLITUDE??
S14        24   S S13 NOT AD=20040212:20070403/PR
S15        24   S S14 NOT (S8 OR S10)
S16         5   S S15 AND IC=H04N?
```

8/3K/1 (Item 1 from file: 348) **Links**
EUROPEAN PATENTS

01590269
A multi-beam exposure unit
Vielstrahl-Belichtungseinheit
Unite d'exposition a faisceaux multiples

Patent Assignee:

- **KABUSHIKI KAISHA TOSHIBA**; (2077103)
  1-1, Shibaura 1-chome, Minato-ku; Tokyo; (JP)
  (Proprietor designated states: all)

Inventor:

- **Shiraishi. Takashi**
  K. K. Toshiba,1-1, Shibaura 1-chome,Minato-ku; Tokyo; (JP)
- **Yamaguchi, Masao**
  K. K. Toshiba,1-1, Shibaura 1-chome,Minato-ku; Tokyo; (JP)
- **Fukutome, Yasuyuki**
  K. K. Toshiba,1-1, Shibaura 1-chome,Minato-ku; Tokyo; (JP)

Legal Representative:

• **Kramer - Barske - Schmidtchen (102191)**
European Patent Attorneys Patenta Radeckestrasse 43; 81245 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1318427	A2	20030611	(Basic)
	EP	1318427	A3	20040407	
	EP	1318427	B1	20060531	
Application	EP	2002024831		19970107	
Priorities	JP	962988		19960111	

Designated States:
DE; FR; GB;

Related Parent Numbers: Patent (Application): EP 784221 (EP 97100132)

International Patent Class (V7): G02B-026/10; G03B-027/32; G03G-015/01; G03G-015/04; B41J-002/44; **H04N-001/04**; ...**H04N-001/04**

IPC	Level	Value	Position	Status	Version	Action	Source	Office
G02B-0026/10	A	I	F	B	20060101	20040214	H	EP
G03B-0027/32	A	I	L	B	20060101	20040214	H	EP
G03G-0015/01	A	I	L	B	20060101	20040214	H	EP
G03G-0015/04	A	I	L	B	20060101	20040214	H	EP
B41J-0002/44	A	I	L	B	20060101	20040214	H	EP
H04N-0001/04	A	I	L	B	20060101	20040214	H	EP
...**H04N-0001/04**	A	I	L	B	20060101	20040214	H	EP

Abstract Word Count: 137
NOTE: 2
NOTE: Figure number on first page: 2

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200324	750
SPEC A	(English)	200324	17437
CLAIMS B	(English)	200622	753
CLAIMS B	(German)	200622	709
CLAIMS B	(French)	200622	896
SPEC B	(English)	200622	15807
Total Word Count (Document A) 18190			
Total Word Count (Document B) 18165			
Total Word Count (All Documents) 36355			

Specification: ...15 is a schematic perspective view of a mirror for horizontal synchronization detection in the **light** scanning unit shown in FIG. 2;

FIG. 16 is a schematic perspective view showing the... ...showing the beam positions of laser beams irradiated onto the photosensitive drum by the light **scanning** unit;

FIGS. 18A and 18B are graphs for explaining the relationship between the phase difference... ...difference and the intensity distribution of laser beams irradiated onto the photosensitive drum by the **light scanning** unit shown in the respective drawings under the same conditions as in FIGS. 18A and... ...and 19B;

FIG. 22 is a graph showing a setting example of elements of the **light scanning** unit that can remove the influence of the phase difference between neighboring laser beams upon... ...respective image forming units 50(Y, M, C, and B) are serially arranged underneath a **light scanning** unit 1 in the order of 50Y, 50M, 50C, and 50B in correspondence with the... ...images via third mirrors 37Y, 37M, and 37C, and a first mirror 33B of the **light scanning** unit 1.

A conveyor belt 52 for conveying images formed by the image forming units... ...the photosensitive bodies (drums) 58 by the mirrors 37Y, 37M, 37C, and 33B of the **light scanning** unit 1 is split into Ni)) beams in the sub-scanning direction above the corresponding...

Specification: ...15 is a schematic perspective view of a mirror for horizontal synchronization detection in the **light** scanning unit shown in FIG. 2; FIG. 16 is a schematic perspective view showing the... ...showing the beam positions of laser beams irradiated onto the photosensitive drum by the light **scanning** unit; FIGS. 18A and 18B are graphs for explaining the relationship between the phase difference... ...difference and the intensity distribution of laser beams irradiated onto the photosensitive drum by the **light scanning** unit shown in the respective drawings under the same conditions as in FIGS. 18A and... ...and 19B; FIG. 22 is a graph showing a setting example of elements of the **light scanning** unit that can remove the influence of the phase difference between neighboring laser beams upon... ...respective image forming units 50(Y, M, C, and B) are serially arranged underneath a **light scanning** unit 1 in the order of 50Y, 50M, 50C, and 50B in correspondence with the... ...images via third mirrors 37Y, 37M, and 37C, and a first mirror 33B of the **light scanning** unit 1.

A conveyor belt 52 for conveying images formed by the image forming units... ...the photosensitive bodies (drums) 58 by the mirrors 37Y, 37M, 37C, and 33B of the **light scanning** unit 1 is split into Ni)) beams in the sub-scanning direction above the corresponding...

8/3K/2 (Item 2 from file: 348) **Links**
EUROPEAN PATENTS

01383351
Laser beam scanner and photographic printer using the same
Laserstrahl-Abtastvorrichtung und deren Verwendung in fotografischem Drucker
Appareil a balayage de faisceau laser et son utilisation dans une imprimante photographique

Patent Assignee:

- **NORITSU KOKI CO., LTD.**; (910852)
  579-1 Umehara; Wakayama-shi, Wakayama; (JP)
  (Applicant designated States: all)

Inventor:

- **Manzo, Kozo**
  Noritsu Koki Co., Ltd., 579-1 Umehara; Wakayama-shi, Wakayama; (JP)

Legal Representative:

- **Hill, Christopher Michael et al (86371)**
  Page White & Farrer 54 Doughty Street; London WC1N 2LS; (GB)

	Country	Number	Kind	Date	
Patent	EP	1175083	A2	20020123	(Basic)
	EP	1175083	A3	20040519	
Application	EP	2001302826		20010327	
Priorities	JP	200088732		20000328	

Designated States:
DE; FR; GB;

Extended Designated States:
AL; LT; LV; MK; RO; SI;

International Patent Class (V7): H04N-001/40; H04N-001/40Abstract Word Count: 146
NOTE: 4
NOTE: Figure number on first page: 4

Type	Pub. Date	Kind	Text

Publication: English

Procedural: English
Application: English

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200204	1299
SPEC A	(English)	200204	4428
Total Word Count (Document A) 5727			
Total Word Count (Document B) 0			
Total Word Count (All Documents) 5727			

Claims: ...A2

1. A **laser** beam scanner (100) comprising at least a set of a laser light source (104R, 104G... ...the laser beam is not sensed by the photo sensor (302).

10. The laser beam **scanner** in accordance with one of claims 1 to 9, wherein three sets of the laser... ...are prepared for three principal colors (red, green, blue) or complementary colors thereof.

11. A **photographic** printer including a **laser** beam **scanner** (100), a conveyor for conveying a photographic paper (1) to a predetermined **scanning** plane of the **laser** beam **scanner** and a developer (30) for developing a latent image exposed on the photographic paper (1) by the **laser** beam **scanner** (100), wherein

the **laser** beam **scanner** (100) comprising at least a set of a laser light source (104R, 104G, 104B) for...

8/3K/3 (Item 3 from file: 348) **Links**
EUROPEAN PATENTS

01331757
Apparatus for and method of recording image
Gerat und Verfahren zur Bildaufzeichnung
Appareil et methode d'enregistrement d'images

Patent Assignee:

- **FUJI PHOTO FILM CO., LTD.**; (202407)
  210 Nakanuma; Minamiashigara-shi, Kanagawa-ken 250-0193; (JP)
  (Proprietor designated states: all)

Inventor:

- **Fujii, Takeshi**
  Fuji Photo Film Co.Ltd.798 Miyanodai,Kaisei-Machi; Ashigarakami-gun,Kanagawa-ken 258-8538; (JP)
- **Sumi, Katsuto**
  Fuji Photo Film Co.Ltd.798 Miyanodai,Kaisei-Machi; Ashigarakami-gun,Kanagawa-ken 258-8538; (JP)
- **Yamashita, Akiko**
  Fuji Photo Film Co.Ltd.798 Miyanodai,Kaisei-Machi; Ashigarakami-gun,Kanagawa-ken 258-8538; (JP)
- **Miyamaru, Fumiaki**
  Fuji Photo Film Co.Ltd.798 Miyanodai,Kaisei-Machi; Ashigarakami-gun,Kanagawa-ken 258-8538; (JP)
- **Hatano, Youichi**
  c/o Fujinon Corporation,1-324Uetake-cho,Kita-ku; Saitama,Saitama; (JP)

Legal Representative:

- **Klunker . Schmitt-Nilson . Hirsch (101001)**
  Winzererstrasse 106; 80797 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1136272	A2	20010926	(Basic)

	EP	1136272	A3	20030305	
	EP	1136272	B1	20060614	
Application	EP	2001106181		20010313	
Priorities	JP	200077284		20000317	

Designated States:
DE; FR; GB;

Extended Designated States:
AL; LT; LV; MK; RO; SI;

International Patent Class (V7): B41J-002/47; **H04N-001/407**; ...**H04N-001/407**

IPC	Level	Value	Position	Status	Version	Action	Source	Office
B41J-0002/47	A	I	F	B	20060101	20010807	H	EP
H04N-0001/407	A	I	L	B	20060101	20030113	H	EP
...**H04N-0001/407**	A	I	L	B	20060101	20030113	H	EP

Abstract Word Count: 143
NOTE: 3
NOTE: Figure number on first page: 3

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200139	934
SPEC A	(English)	200139	10810
CLAIMS B	(English)	200624	960
CLAIMS B	(German)	200624	770
CLAIMS B	(French)	200624	1087
SPEC B	(English)	200624	10690
Total Word Count (Document A) 11746			
Total Word Count (Document B) 13507			
Total Word Count (All Documents) 25253			

Specification: ...for successively detecting respective recording duty cycles PDUTY each for 20 pixels in the main **scanning** direction. The **light** beam **intensity correcting** memory 156 produces amounts of recording light P with respect to the respective light beams...

Specification: ...for successively detecting respective recording duty cycles PDUTY each for 20 pixels in the main **scanning** direction. The **light** beam **intensity correcting** memory 156 produces amounts of recording light P with respect to the respective light beams...

8/3K/4 (Item 4 from file: 348) **Links**
EUROPEAN PATENTS

00850268
A multi-beam exposure unit
Mehrstrahl-Belichtungseinrichtung
Unite d'exposition a faisceaux multiples

Patent Assignee:

- **KABUSHIKI KAISHA TOSHIBA**; (213130)
  72, Horikawa-cho, Saiwai-ku; Kawasaki-shi, Kanagawa-ken 210-8572; (JP)
  (Proprietor designated states: all)

Inventor:

- **Shiraishi, Takashi**
  c/o Kabushiki Kaisha Toshiba, Intell. Prop. Div.; 1-1 Shibaura 1-chome,Minato-ku Tokyo 105; (JP)
- **Yamaguchi, Masao**
  c/o Kabushiki Kaisha Toshiba, Intell. Prop. Div.; 1-1 Shibaura 1-chome,Minato-ku Tokyo 105; (JP)
- **Fukutome, Yasuyuki**
  c/o Kabushiki Kaisha Toshiba, Intell. Prop. Div.; 1-1 Shibaura 1-chome,Minato-ku Tokyo 105; (JP)

Legal Representative:

- **Kramer - Barske - Schmidtchen (102192)**
  European Patent Attorneys Patenta Radeckestrasse 43; 81245 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	784221	A1	19970716	(Basic)
	EP	784221	B1	20031015	
Application	EP	97100132		19970107	
Priorities	JP	962988		19960111	

Designated States:
DE; FR; GB;

Related Divisions: Patent (Application):EP 1318427 (EP 2002024831)

International Patent Class (V7): G02B-026/10; G03B-027/32; G03G-015/01; G03G-015/04; B41J-002/44; **H04N-001/04**; ...**H04N-001/04**
NOTE: 2
NOTE: Figure number on first page: 2

Type	Pub. Date	Kind	Text
Publication: English			
Procedural: English			
Application: English			

Available Text	Language	Update	Word Count
Total Word Count (Document A)			
Total Word Count (Document B)			
Total Word Count (All Documents)			

8/3K/5 (Item 5 from file: 348) **Links**
EUROPEAN PATENTS

00736988
Fast scan spot correction in a polygon raster output scanner
Schnelle Abtastspotkorrektor in einem Rasterabtastpolygon
Correction rapide de spot de balayage pour un polygone a balayage de trame

Patent Assignee:

- **XEROX CORPORATION**; (219783)
  Xerox Square; Rochester, New York 14644; (US)
  (Proprietor designated states: all)

Inventor:

- **Appel, James J.**
  87 Bradford Road; Rochester, NY 14618; (US)
- **Lama, William L.**
  7 Cathedral Oaks; Fairport, NY 14450; (US)

Legal Representative:

- **Skone James, Robert Edmund et al (50281)**
  GILL JENNINGS & EVERY Broadgate House 7 Eldon Street; London EC2M 7LH; (GB)

	Country	Number	Kind	Date	
Patent	EP	695078	A1	19960131	(Basic)
	EP	695078	B1	20001011	
Application	EP	95305054		19950720	
Priorities	US	282379		19940729	

Designated States:
DE; FR; GB;

International Patent Class (V7): H04N-001/40; G06K-015/12; B41J-002/47; G02B-026/10; H04N-001/40... Abstract Word Count: 135
NOTE: 5
NOTE: Figure number on first page: 5

Type	Pub. Date	Kind	Text
Publication: English			
Procedural: English			
Application: English			

Available Text	Language	Update	Word Count
Total Word Count (Document A)			
Total Word Count (Document B)			
Total Word Count (All Documents)			

8/3K/6 (Item 6 from file: 348) **Links**
EUROPEAN PATENTS

00436865
Optical scanner with mirror mounted occluding aperture or filter
Auf einem Spiegel angebrachter optischer Abtaster mit okkludierender Blende oder Filter
Balayeur optique avec ouverture ou filtre occlurant monte sur un miroir

Patent Assignee:

- **Hewlett-Packard Company**; (206031)
  Mail Stop 20 B-O, 3000 Hanover Street; Palo Alto, California 94304; (US)
  (applicant designated states: DE;GB)

Inventor:

- **Boyd, David W.**
  615 46th Avenue Court; Greeley, Colorado 80634; (US)
- **Deutschbein, John S.**
  3624 Yale Court; Longmont, Colorado 80503; (US)

Legal Representative:

- **Colgan, Stephen James et al (29461)**
  CARPMAELS & RANSFORD 43 Bloomsbury Square; London WC1A 2RA; (GB)

	Country	Number	Kind	Date	
Patent	EP	438868	A2	19910731	(Basic)
	EP	438868	A3	19920401	
	EP	438868	B1	19960424	

Application	EP	90312893		19901127	
Priorities	US	471156		19900125	

Designated States:
DE; GB;

International Patent Class (V7): H04N-001/028; ; ; H04N-001/028Abstract Word Count: 201

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
Total Word Count (Document A)			
Total Word Count (Document B)			
Total Word Count (All Documents)			

8/3K/7 (Item 7 from file: 348) **Links**
EUROPEAN PATENTS

00359206
Method of and device for correcting scattered-radiation effects in X-ray images.
Verfahren und Anordnung zur Korrektur von Streustrahlungseffekten in Rontgenbildern.
Procede et dispositif pour la correction d'effets de rayonnement disperse dans les images a rayons X.

Patent Assignee:

- **N.V. Philips' Gloeilampenfabrieken**; (200769)
  Groenewoudseweg 1; NL-5621 BA Eindhoven; (NL)
  (applicant designated states: DE;ES;FR;GB;IT;NL)

Inventor:

- **Stegehuis, Herman**
  c/o INT. OCTROOIBUREAU B.V. Prof. Holstlaan 6; NL-5656 AA Eindhoven; (NL)

Legal Representative:

- **Schouten, Marcus Maria et al (62271)**
  INTERNATIONAAL OCTROOIBUREAU B.V., Prof. Holstlaan 6; NL-5656 AA Eindhoven; (NL)

	Country	Number	Kind	Date	
Patent	EP	358268	A1	19900314	(Basic)
	EP	358268	B1	19931201	
Application	EP	89202211		19890901	
Priorities	NL	882184		19880905	

Designated States:
DE; ES; FR; GB; IT; NL;

International Patent Class (V7): H04N-005/32; H05G-001/64; ; H04N-005/32... Abstract Word Count: 93

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
Total Word Count (Document A)			
Total Word Count (Document B)			
Total Word Count (All Documents)			

8/3K/8 (Item 1 from file: 349) **Links**
PCT FULLTEXT

00871376
CAMERA HAVING A THROUGH THE LENS PIXEL ILLUMINATOR
APPAREIL PHOTOGRAPHIQUE AVEC ILLUMINATEUR DE PIXELS DE TYPE REFLEX

Patent Applicant/Patent Assignee:

- **3DV SYSTEMS LTD**; P.O. Box 249, 20692 Yokneam IL; IL(Residence); IL(Nationality) (For all designated states except: US)
- **BRAUN Ori J**; Boyer Street 12/7, 69127 Tel Aviv IL; IL(Residence); IL(Nationality) (Designated only for: US)
- **YAHAV Giora**; Beiliss Street 11, 34814 Haifa IL; IL(Residence); IL(Nationality) (Designated only for: US)

Patent Applicant/Inventor:

- **BRAUN Ori J** Boyer Street 12/7, 69127 Tel Aviv; IL; IL(Residence); IL(Nationality); (Designated only for: US)
- **YAHAV Giora** Beiliss Street 11, 34814 Haifa; IL; IL(Residence); IL(Nationality); (Designated only for: US)

Legal Representative:

- **FENSTER Paul(et al)(agent)** Fenster & Company Patent Attorneys, Ltd., P.O. Box 10256, 49002 Petach Tikva; IL;

	Country	Number	Kind	Date
Patent	WO	200205549	A1	20020117
Application	WO	2000IL404		20000709
Priorities	WO	2000IL404		20000709

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE;

Main International Patent Classes (Version 7):

IPC	Level
H04N-005/235	Main

Publication Language: English
Filing Language: English
Fulltext word count: 13978

Detailed Description:

...differences in distances of different region in the scene from the camera result in substantial **differences** in **intensity** of **reflected light** reaching the **camera**. For example, intensity of light received from a region in a scene is a fimetion..

10/3K/1 (Item 1 from file: 348) **Links**
EUROPEAN PATENTS

00211564
Apparatus and method for locating an object.

Vorrichtung und Verfahren zur Standortbestimmung eines Objekts.
Disositif et methode de determination de position d'un objet.

Patent Assignee:

- **International Business Machines Corporation**; (200120)
  Old Orchard Road; Armonk, N.Y. 10504; (US)
  (applicant designated states: DE;FR;GB)

Inventor:

- **Garwin, Richard Lawrence**
  16 Ridgecrest East; Scarsdale, N.Y. 10583; (US)
- **Levine, James Lewis**
  1474 Indiana Avenue; Yorktown Heights, N.Y. 10598; (US)

Legal Representative:

- **Atchley, Martin John Waldegrave (27831)**
  IBM United Kingdom Limited Intellectual Property Department Hursley Park; Winchester Hampshire SO21 2JN; (GB)

	Country	Number	Kind	Date	
Patent	EP	227958	A1	19870708	(Basic)
	EP	227958	B1	19910925	
Application	EP	86116531		19861128	
Priorities	US	809639		19851216	

Designated States:
DE; FR; GB;

International Patent Class (V7): G06K-011/06; G01S-017/87; G01S-007/48; G01S-005/16; **Abstract Word Count:** 75

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
Total Word Count (Document A)			
Total Word Count (Document B)			
Total Word Count (All Documents)			

10/3K/2 (Item 1 from file: 349) **Links**
PCT FULLTEXT

01425543
INHIBITION OF P-GLYCOPROTEIN USING ACT MODULATORS AND UIC2 MONOCLONAL ANTIBODY
INHIBITION DE LA GLYCOPROTEINE P PAR TRAITEMENT AU MOYEN D'UNE CLASSE DE MODULATEURS ET DE L'ANTICORPS MONOCLONAL UIC2

Patent Applicant/Patent Assignee:

- **CEDARS-SINAI MEDICAL CENTER**; 8700 Beverly Boulevard, Los Angeles, California 90048
  US; US (Residence); US (Nationality)
  (For all designated states except: US)
- **SZABO Gabor**, Bathory U.33b, H-4033 Debrecen
  HU; HU (Residence); HU (Nationality)

- **GODA Katalin**; Vag Str. 42. Ii/8, H-4031 Debrecen
  HU; HU (Residence); HU (Nationality)

Patent Applicant/Inventor:

- **SZABO Gabor**
  Bathory U.33b, H-4033 Debrecen; HU; HU (Residence); HU (Nationality);
- **GODA Katalin**
  Vag Str. 42. Ii/8, H-4031 Debrecen; HU; HU (Residence); HU (Nationality);

Legal Representative:

- **TRUONG Linda et al(agent)**
  Suite 2400, 865 South Figueroa Street, Los Angeles, California 90017-2566; US;

	Country	Number	Kind	Date
Patent	WO	2006108070	A2-A3	20061012
Application	WO	2006US12738		20060405
Priorities	US	2005668846		20050406

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)
AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG;
BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU;
CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI;
GB; GD; GE; GH; GM; HR; HU; ID; IL; IN;
IS; JP; KE; KG; KM; KN; KP; KR; KZ; LC;
LK; LR; LS; LT; LU; LV; LY; MA; MD; MG;
MK; MN; MW; MX; MZ; NA; NG; NI; NO; NZ;
OM; PG; PH; PL; PT; RO; RU; SC; SD; SE;
SG; SK; SL; SM; SY; TJ; TM; TN; TR; TT;
TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM;
ZW;

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IS; IT; LT; LU;
LV; MC; NL; PL; PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; NA; SD; SL;
SZ; TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English
Filing Language: English
Fulltext word count: 11427

Detailed Description:

...daunorubicin fluorescence intensity distribution histograms of the whole cryosections (shown in Fig. 4) measured by **laser scanning** cytometry in accordance with an embodiment of the present invention. Histograms A and B represent...prepared from the tumor samples and their DNR distribution was subsequently measured in a confocal **laser scanning** microscope.

UIC2 binding was visualized by indirect immunofluorescence. The cryosections were blocked with 10 % goat... ...morphology of the tissue sections was routinely checked by hematoxylin-eosin staining.

Example 6

Confocal **Laser Scanning** Microscopy and **Laser Scanning** Cytometry The daunorubicin accumulation as well as UIC2 binding of the cryosections prepared from the tumors were studied by confocal **laser scanning** microscopy (LSM 510, Zeiss, Thonlwood, NY, USA) and **laser scanning** cytometery (LSC; CompuCyte, Cambridge, MA).

The 488-nm line of an argon-ion laser was...

10/3K/3 (Item 2 from file: 349) **Links**
PCT FULLTEXT

01341473
ALLEVIATION OF NON-SPECIFIC BINDING IN MICROARRAY ASSAYS
REDUCTION DE LA LIAISON NON SPECIFIQUE DANS DES DOSAGES EN MICRORESEAUX

Patent Applicant/Patent Assignee:

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  US; US (Residence); US (Nationality)
  (For all designated states except: US)
- **FALCOVITZ-GERASSI Yehudit**; 5726 Ferber Street, San Diego, CA 92122
  US; US (Residence); US (Nationality)
  (Designated only for: US)
- **TSINBERG Pavel**; 2356 Caringa Way, Unit C, Carlsbad, CA 92009
  US; US (Residence); US (Nationality)
  (Designated only for: US)

Patent Applicant/Inventor:

- **FALCOVITZ-GERASSI Yehudit**
  5726 Ferber Street, San Diego, CA 92122; US; US (Residence); US (Nationality); (Designated only for: US)
- **TSINBERG Pavel**
  2356 Caringa Way, Unit C, Carlsbad, CA 92009; US; US (Residence); US (Nationality); (Designated only for: US)

Legal Representative:

- **SAMPLES Kenneth H et al(agent)**
  Fitch, Even, Tabin & Flannery, Suite 1600, 120 South LaSalle Street, Chicago, IL 60603; US;

	Country	Number	Kind	Date
Patent	WO	200623383	A1	20060302
Application	WO	2005US28690		20050811
Priorities	US	2004922387		20040819

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)
AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG;
BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU;
CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI;
GB; GD; GE; GH; GM; HR; HU; ID; IL; IN;
IS; JP; KE; KG; KM; KP; KR; KZ; LC; LK;
LR; LS; LT; LU; LV; MA; MD; MG; MK; MN;
MW; MX; MZ; NA; NG; NI; NO; NZ; OM; PG;
PH; PL; PT; RO; RU; SC; SD; SE; SG; SK;
SL; SM; SY; TJ; TM; TN; TR; TT; TZ; UA;
UG; US; UZ; VC; VN; YU; ZA; ZM; ZW;

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;

FI; FR; GB; GR; HU; IE; IS; IT; LT; LU;
LV; MC; NL; PL; PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; NA; SD; SL;
SZ; TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English
Filing Language: English
Fulltext word count: 9084

Claims:

...labeled with Cy3 which will attach to the secondary antibody if present; it is then **imaged** by a GSI **laser scanner**. On a separate slide, double-stranded DNA is stained with SYBR Gold (Molecular Probe) according to manufacturer's protocol and visualized by a GSI **laser scanner** for its total DNA content. Binding of the Cy3 labeled k repressor to its native... ...rise to the Cy3 signal associated with the wild type OR20RI sequence. A hundred-fold **difference** in signal **intensity** between linking to the wild type sequence as compared to the mutant sequence confirms the... ...labeled donkey anti-mouse IgG and with Cy3 labeled antibodies for 11L-5, followed by **laser scanner imaging**. A **linear** dose response over **three** orders of magnitude of dilutions, i.e. 0.1 to 0.001, is observed. This...

10/3K/4 (Item 3 from file: 349) **Links**
PCT FULLTEXT

00493267
MATERIALS AND METHODS FOR QUANTITATIVE PCR
MATERIAUX ET PROCEDES QUANTITATIFS POUR ACP

Patent Applicant/Patent Assignee:

- **IXION BIOTECHNOLOGY INC**;
  ; ;

- **UNIVERSITY OF FLORIDA**;
  ; ;

	Country	Number	Kind	Date
Patent	WO	9924619	A1	19990520
Application	WO	98US23867		19981106
Priorities	US	9764823		19971107

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

Publication Language: English
Filing Language:
Fulltext word count: 4818

Detailed Description:

...fold. DNA, isolated from each dilution, was used as experimental DNA and mixed with competitive **template** diluted from **1** x 10" to I x 10' copies/reaction. The PCR products were size separated, visualized with LTV **light** and **photographed**. **Photographs** were **scanned** for relative band **intensities**, normalized for **differences** in molecular weight, and plotted against the

log of the copy number of synthetic template...

16/3K/1 (Item 1 from file: 348) **Links**
EUROPEAN PATENTS

01291321
Apparatus and method for digital data transmission
Vorrichtung und Verfahren zur digitalen Datenubertragung
Dispositif et procede de transmission de donnees numeriques
Apparatus and method for **digital** data transmission

Patent Assignee:

- **Terayon Communication Systems, Inc.**; (2769080)
  2952 Bunker Hill Lane; Santa Clara, CA 95054; (US)
  (Applicant designated States: all)

Inventor:

- **Rakib, Selim Shlomo**
  10271 West Acres,; Cupertino, California 95014; (US)
- **Azenkot, Yehuda**
  1128 Littleoak Circle; San Jose, California 95129; (US)

Legal Representative:

- **Brax, Matti Juhani (85201)**
  Berggren Oy Ab, P.O. Box 16; 00101 Helsinki; (FI)

	Country	Number	Kind	Date	
Patent	EP	1107598	A2	20010613	(Basic)
	EP	1107598	A3	20020116	
Application	EP	2001104542		19960725	
Priorities	US	519630		19950825	
	US	588650		19960119	
	US	684243		19960719	

Designated States:
BE; DE; FR; GB; IE; NL;

Related Parent Numbers: Patent (Application):EP 858695 (EP 96927270)

International Patent Class (V7): H04N-007/173; H04L-012/28; H04J-011/00; H04J-013/02; H04J-003/06; H04B-001/707; H04L-005/02; H04N-007/173... **Abstract** ...apparatus for carrying out synchronous co-division multiple access (SCDMA) communication of multiple channels of **digital** data over a shared transmission media (1162). The system includes modems at remote units (1164) and a central unit (1160) to receive time division multiplexed **digital** data arranged into timeslots or channels and uses orthogonal codes to encode each channel of...

Abstract Word Count: 143
NOTE: 49
NOTE: Figure number on first page: 49

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200124	2110
SPEC A	(English)	200124	67900
Total Word Count (Document A) 70010			

Total Word Count (Document B) 0
Total Word Count (All Documents) 70010

Specification: ...application. Field of the Invention

The invention pertains to the field of bidirectional communication of **digital** data over coaxial cable or other transmission media. More particularly, the invention pertains to the field of provision of multiple channels of **digital** data including interactive TV services, **digital** telephony, video teleconferencing, video on demand, intemet access at 10 megabit/second or media data... ...will hereafter be called supplemental services.

Background of The Invention

In order to provide bidirectional **digital** data communication over a cable TV coaxial network to multiple subscribers with multiple **digital** services including data, digitized video and digitized audio, all made available over a single cable... ...as ATM or ISDN that are designed for delivery of digitized video, digitized audio and **digital** data over point to point LAN connections. Thus, the a major problem exists in adapting... ...time. In CATV systems, typically only 6 mHz of bandwidth is available for communications of **digital** data downstream from the head end to the subscribers and another 6 mHz elsewhere on problem must be solved.

An example of one attempt to transmit **digital** data bidirectionally over a CATV system is the technology disclosed in U.S. patents 4... ...a PN code is assigned for the call. During the call, pilot signals are continuously **scanned** to determined when another pilot signal becomes stronger. An outer PN code is used to... ...to the head end into branch lines coupled to other subscribers. In order to send **digital** data over video coax. a modem is necessary at both the head end and at all the subscriber locations to modulate **digital** data onto the coax as RF signals, and to receive RF signals carrying **digital** data and derive the **digital** data therefrom. Because RF signals are propagating along the cables, and because the couplers are... ...the RF signals. These random variations make discrimination during the demodulation process to derive the **digital** data more difficult.

Further, because the subscribers are at physically different distances from the head... ...modem arrive at the head end at different times because of different propagation delays. Because **digital** data is transmitted in frames and because all subscribers must be synchronized to the same... transformers.

Interactive systems typically involve in excess of one hundred different channels on which separate **digital** data streams can flow in addition to the separate channels on which the video signals are provided for normal cable TV service. To send **digital** data as RF signals, very complex constellations of separate amplitude and phase combinations are used to encode the **digital** characters being transmitted. Because of the large number of data points, the differences in phase... ...and the subscribers that must be shared by all the subscribers to send and receive **digital** data. One approach that has been tried in prior art interactive cable TV systems is... ...a harmonic which has a bandwidth similar to the bandwidth of the channels upon which **digital** data is being transmitted enters the transmission media. Typically this happens at a tap which... Communications, Vol. E78-8, No. 7 July 1995" is known to teach a bidirectional wireless **digital** data communication system with a plurality of distributed remote units that communicate with a central ... ...second embodiment the invention provides for a synchronous multiplexed central transceiver for use in a **digital** data communication system comprised of said central transceiver coupled by a shared transmission medium to... ...provides for a process of synchronous time division or code division multiplexed upstream transmissions of **digital** data to a headend transceiver on the same frequency over a shared transmission medium from... ...In its fourth embodiment the invention provides for a plurality of computer data signals encoding **digital** upstream data from different sources. The plurality of computer data signals comprise the features that... ...code division multiplexing multiple access (CDMA) scheme using orthogonal codes to encode multiple channels of **digital** data for simultaneous transmission over a cable television media which is also carrying frequency division... ...other than cable TV programming delivery. The ranging process described herein is useful for any **digital** communication system which delivers data from physically distributed transmitters to a central location in frames... ...than the cable TV programming provides a system whereby the entire bandwidth devoted to the **digital** auxiliary services may be simultaneously shared by multiple users who share a plurality of channels...can be effectively managed using conventional error detection and correction bits. In other words, the **digital** data providing the interactive or bidirectional data communication is sent using a CDMA scheme, but... ...TDMA scheme. More precisely, a guardband free of data is added to the CDMA signal. **Digital** data is transmitted in frames, each frame comprising 3 data symbols and a guardband. The... ...the ranging/alignment scheme disclosed herein is useful for any other modulation scheme which transmits **digital** data in frames, requires frame synchronization and can insert a guardband between the frames.

Some... ...ary modulation code division multiplexing. Each remote unit receives a time division multiplexed stream of **digital** data. Each timeslot contains 9 bits of data. Each 9 bits is stored in a... ...modulation) constellation by using the first two bits to represent the inphase or I axis **amplitude** and the last two bits to represent the quadrature or Q axis amplitude. Thus, M...are also used to send data downstream. With the system described herein, multiple streams of **digital** data, each having a 64 kbps throughput can be simultaneously sent over a 6 MHz... ...of a general system according to the genus of the invention for simultaneous transmission of **digital** data from multiple subscribers to a head end receiver over a shared coaxial cable using... ...the locations of the Rus and the Rus and Cus simultaneously communicate multiple channels of **digital** data over the same

CATV coax using a combination of TDMA/CDMA and FDMA in...or I axis for the real part and the quadrature or Q axis for the **imaginary** part of each point to implements M-ary QAM modulation.

Figure 22 is a table... ...combinations of 4 bit chips in the Code column and the corresponding 2's complement **digital** representation of the I and Q coordinates for each combination in the Inphase and Quadrature...other.

Figure 47 is a frequency domain diagram of the spectra of the real and **imaginary** baseband data signals after direct sequence spreading.

Figure 48 is a frequency domain diagram illustrating... ...synchronization.

Figure 54 is a block diagram of a synchronous TDMA system for bidirectionally communicating **digital** data over any transmission media including hybrid fiber coax using FDMA upstream and downstream channel... ...to Figure 1, there is shown a conceptual diagram of a system for multiple access **digital** communication over a cable TV coaxial conductor distribution system using orthogonal codes for CDMA. The... ...the mathematical relationship which the system of Figure 1 uses to send multiple channels of **digital** data over the same conductor without interference between channels. (b) in Figure 3A represents an ... ...represents a code matrix having the unique orthogonal code for each channel as its columns. (**cT**)) represents the transpose matrix of the code matrix (c) where each column of (c) becomes a row of (**cT**)). Finally, (i) represents the identity matrix where all entries are zeroes except for a line... ...on the receiver side of the transmission is a matrix multiplication of the transpose matrix (**cT**)) times the signals generated on the transmit ...utilize these mathematical relationships of Figures 2 and 3A and convert them into a practical **digital** data communication system, symbolized by the system of Figure 1, subscriber #1 provides a **digital** input stream of symbols or bits using any input device or computer (not shown). This **digital** data stream to be transmitted to the head end arrives on bus 10 at the data input of a code #1 modulator/transmitter 12. This **digital** data stream will be divided into individual symbols transmitted at the rate of three symbols... ...of the invention can be employed using symbois, data bytes or any other grouping of **digital** data. The first bit from the stream on bus 10 will be the first vector... ...of increasing time.

In the embodiment shown in Figure 3A, modulator/transmitter 12 converts the **digital** data in the data stream arriving on bus 10 into amplitude modulations of a carrier... ...c) representing the final result of the full matrix multiplication.

Likewise, subscriber #2 provides a **digital** data input stream on bus 14 to a code #2 modulator/transmitter 16. This **digital** data stream on bus 14 will be divided into individual symbols or bits to be ... ...become the second vector element in the information vector (b).

Modulator/transmitter 16 converts the **digital** data in the data stream arriving on bus 14 into amplitude modulations of a carrier... ...the TDMA streams. The use of orthogonal codes provides simultaneous multiple access such that multiple **digital** channels can be simultaneously transmitted over a shared data path, and minimizes crosstalk between **digital** channels, especially where proper frame timing alignment among multiple subscribers is utilized. To implement this...side of the transaction, the receivers multiply the received signals times the transpose code matrix (**cT**)) in a manner to reverse the encoding process. To derive the transpose matrix, the columns of the code matrix (c) become the rows of the transpose matrix (

cT)). In the hypothetical example at hand, the transpose matrix will have (1/(radical)2, 1... ...c), as shown in Figure 3G. Thus, in the example at hand, the transpose matrix (**cT**)) is actually identical to the code matrix (c). The result of multiplication of the result...3G, each of the elements in the code matrix (c) (and, consequently, its transpose matrix (**cT**)))are divided by this normalization factor (radical)2.

Returning to the discussion of Figure 1... ...factors, and to multiply these result vector elements times the columns of the transpose matrix (**cT**)) to recover the information vector (b) originally transmitted. To accomplish this function, link 28 is... ...line 35 an analog signal representing the elements in column 1 of the transpose matrix (**cT**)).

Likewise, link 30 and the demodulator/discriminator (not shown) is coupled to a receiver 38... ...a signal on line 37 representing the elements of column 2 of the transpose matrix (**cT**)).

Multiplier 34 multiplies the signals on link 28 during a first time interval times the... ...2/(radical)2, times the second element in the first column of the transpose matrix (**cT**)) and outputs the partial product result on line 44 to the summation input of the... ...2) is arriving times the first element of the second column of the transpose matrix (**cT**)) arriving on line 37. The resulting partial product is output on line 48 to the... ...skilled in the art will appreciate that each subscriber transmitter may transmit multiple channels of **digital** data, and that the matrix multiplication and summation operations described above may be performed with **digital** circuitry such as suitably programmed microprocessors.

In an alternative embodiment, the separate streams of **digital** data are transmitted using spread spectrum frequency hopping techniques. In this embodiment, a first stream of **digital** data will be transmitted from one end to the other using a carrier that hops in frequency in accordance with a first predetermined coded sequence. Likewise, the second stream of **digital** data is transmitted on a carrier that hops in frequency in accordance with a second...time slots in the TDMA streams on lines 10 and 14 are the channels. The **digital** data in each time slot in the TDMA streams on lines 10 and 14 is data transmitted on that channel. The **digital** data in the TDMA streams is re-arranged into symbols, as described briefly above, and... ...sometimes' alternatively

called ranging herein and is broadly applicable to other types of multiple access **digital** data transmission systems also which suffer from different propagation times from different transmitter sites such... ...the data less susceptible to burst noise. The code division multiplexing allows multiple channels of **digital** data to be simultaneously transmitted in a 6 mHz channel without interference between channels. In addition, frequency division multiplexing may be utilized to transmit even more channels of **digital** data above and beyond the 144 channels transmitted in the first 6 mHz channel. In other words, another 144 different TDMA **digital** channels may be code division multiplexed and transmitted simultaneously with the first 144 **digital** channels but on a second 6 mHz channel. This second 6 mHz channel has a...64, 66 and guardband 71. The symbols carry the information for the various channels of **digital** data provided to the subscribers. The frame period is 125 microseconds. The frame data payload... ...Therefore the beginning of the guardband 60 is located at point 61.

Alignment of Any **Digital** Data System That Sends Data Bits Collected As Frames

Referring to Fig.4B, there is...the RU first adjusts its AGC level to make full use of its analog to **digital** converter dynamic range. Next, the RU does frame detection to determine when the gaps in...the RU computer 405 of the presence of the message. The RU computer parses and **scans** the ranging status message and interprets the data therein according to the ranging protocol as...of subscribers of which subscribers 254 and 256 are typical. The CU sends and receives **digital** information bidirectionally with each subscriber's RU. Each subscriber has a remote unit or RU... ...including circuitry in a transmit channel that assembles frames of data symbols from a TDMA **digital** data input stream, and encodes and transmits these frames of symbols to the RUs using... ...the orthogonal codes used by the RU's to transmit the frames, reassembles the TDMA **digital** data stream from the decoded results and outputs the TDMA stream for use by other... ...various services to the subscribers.

Each frame is comprised of symbols that are composed from **digital** payload data in 128 timeslots in the TDMA stream. Each time slot in the TDMA... ...bits for reasons to be described below. Each timeslot is a channel which can carry **digital** data encoding some service such as video on demand, video teleconferencing, ...box 256 represents RU#2. Each RU receives a time division multiplexed (TDMA) stream of **digital** data from the various devices that share the communication capability of coaxial cable/transmission media... ...videophone 262. An interactive television is a modified conventional TV wherein a user can send **digital** signals to the CU in response to things he or she sees on the television or as requests for specific video selections. Each of these devices has a **digital** data input/output port which is coupled to a time division multiplexer switch 264. The... ...of data from each device into timeslots in a time division multiplexed (TDMA) stream of **digital** data on line 266. The TDMA stream for RU#2 is on line 267.

Each...each channel in use, and each decoder uses the appropriate column of the transpose matrix (**cT**)) corresponding to the code used by the corresponding RU to encode the channel being decoded. The resulting decoded **digital** signals are output on lines 286 and 288 to a switch which reassembles these **digital** signals to reproduce a composite of the time division multiplexed data streams which entered the...synchronous code division multiple access system for use on a CATV system to provide supplemental **digital** services wherein all the bandwidth dedicated to the supplemental services is continuously completely used and... ...circuit 400. The function of the framer is to receive one or more streams of **digital** data via data path 399 from one or more sources and to organize this data...encodes each channel with a different orthogonal waveform. For example, these orthogonal multiplexer could store **digital** samples that define a plurality of orthogonal sine and cosine waveforms, each at a different... ...s data would then be multiplied by a different waveform's samples to generate new **digital** samples which define orthogonally encoded data on buses 417 and 419 for modulation onto the... ...would then calculate the time domain waveform that would have that Fourier spectrum and output **digital** samples that define that time domain waveform on buses 558R and 558l in Figure 28A... ...could be transmitted.

In the preferred embodiment, the circuitry of the transceiver is virtually all **digital**, so the arrays of tribits are true arrays, the elements of which are used sequentially memory and supporting circuitry that stores incoming **digital** data from the time division multiplexed data stream received by each RU and CU. The ... ...time slots;

* Each time slot or channel in the TDMA streams carries 9 bits of **digital** data synchronized with the bit clock;

* One time slot worth of data or 9 bits...greater than 2M. More details about trellis encoded modulation are contained in Lee and Messerschmit, **Digital** Communication, 2d Ed., 1994 (Kluwer Academic Publishers, Boston), ISBN 0 7923 9391 0, which is... ...and Q bits on buses 1068 and 1070 are then stored as separate real and **imaginary** arrays for the information vector (b) in memory 406 in Figure 19. These real and **imaginary** arrays then have their bandwidths spread individually by CDMA multiplexer 408 in the manner illustrated by Figure 23B to generate real and **imaginary** array components of a result vector. The elements of each result vector defines the individual...Access System

The output of the convolutional encoder 402 is an array of 4-bit **digital** numbers for each of symbols 1, 2 and 3 shown in Figure 20. Each of... ...4-bit numbers has two bits representing a real part and two bits representing an **imaginary** part. Thus, the information vector (b) shown at 481 for use in the matrix multiplication...or I axis for the real part and the quadrature or Q axis for the **imaginary** part of each point. The I coordinate of each point represents the amplitude for that... ...16 combinations of 4 bits in the Code column and the corresponding 2's complement **digital** representation of the real and **imaginary** coordinates for each combination in the Inphase and Quadrature columns, respectively. For example, the input point 1100 maps to a point having a +3 **imaginary** coordinate and a -1 real coordinate on the constellation of Figure 21. The mapping of... ...of the symbol and the

other array stores the 2-bit elements which define the **imaginary** or quadrature "Q" coordinate of each symbol element. The 144 array elements of each symbol... ...This operation generates another linear array of real or inphase coordinates along the R axis **ct** a result space in a results constellation similar to the constellation of all possible input... ...from the first symbol to be transmitted.

Second, the same process is repeated for the **imaginary** coordinate linear array (not shown) for the same symbol the real coordinates of which were just processed. This results in another linear array comprising the **imaginary** or quadrature coordinates of the chips in the results array. This **imaginary** component array of the results array also is not shown in Figure 23.

The real...part of an overall result or "chips out" array which contains both the real and **imaginary** coordinates of a plurality of chips to be transmitted. These chips map to points in... ...to whatever points in the input point space that are defined by the real and

imaginary components in the information vector array b, of which array 405 is the real part... ...codes.

Before performing the matrix multiplication, the 2's complement values of the real and **imaginary** components of the information vector b input array are converted to their decimal equivalents as... ...codes, the matrix multiplication can be made using the Fast Hadamard Transform algorithm in a **digital** signal processor or microprocessor. If the code matrix is comprised of sin and cosine terms ... ...invention, cyclic codes are preferred because they are easier to generate.

The resulting real and **imaginary** component linear arrays of the results or chips out array are stored in a memory... ...part of the CDMA MUX, and comprises the real or inphase array 409 and the **imaginary** or quadrature array 413 of the 144 result points or chips in the result space. On every chip clock, one result point or chip comprising a real component and an **imaginary** component is output on bus ...unit 453 splits off the real component and outputs those bits on bus 417. The **imaginary** component will be parsed out, and those bits will be output on bus 419.

Because... ...channels must share the transmission media with other RF signals having adjacent frequencies, two optional **digital** passband Nyquist filters 421 and 423 are used to limit the bandwidth of the signals... ...417 and 419 to 6 Mhz to avoid interference with signals on neighboring frequencies. The **digital** signals on buses 417 and 419, when converted to their decimal equivalents usually have rapid... ...equivalent the real component on bus 431 and outputs the result on bus 443.

The **imaginary** or quadrature component of each chip, after filtering, is input on bus 433 to another... ...435 modifies the amplitude of the sine wave in accordance with the amplitude of the **imaginary** component on bus 433, and outputs the result on line 441. Lines 441 and 443...the SIN signal on line 437. The SIN and COS signals can be in either **digital** or analog form in various species within the genus of the invention.

Referring again to ...using control and timing signals on bus 902 on the CPU and the real and **imaginary** data components on bus 904 output by the demodulator 460 in Figure 19 and the...carries data defining the real part of the received signal on lines 906 and the **imaginary** or quadrature part of the received signal on lines 908.

In acquisition mode, the interest...polarity sequence of the individual elements of the barker code sent by the CU. Every **CT**-2 chip clock (8 chip clocks), a new **digital** sample of the received signal enters the FIR filters. The FIR filters do a summation of the results of each stage every **CT**-2 chip clock. When all the samples of the barker code have entered the FIR... ...sequence that defines the barker code the receiver is looking for, the summation on the **CT**-2 chip clock that results in the alignment causes the peak 1004 at the output... ...1012 represent sample points each of which is spaced apart from time T0 by one **CT**-2 chip clock. When the local oscillator 425 in the embodiments of either Figure 35... ...by the circuitry of Figure 38 is as follows. Circuits 1014 and 1016 are the **digital** equivalents of sample and hold circuits. Circuits 1018 and 1020 are each delay circuits that each impose a **CT**-2 chip clock delay on a sample signal on line 1022. This sample signal is ... ...input of which is the magnitude of the signal on bus 944 (all processing is **digital** in the preferred embodiment). The subtractor 1024 constantly subtracts the first sample value 1010 stored... ...from the changing values on bus 944 and presents the difference on bus 1026. Two **CT**-2 chip clocks later, the sample signal on line 1022 reaches register 1016 and causes...the transmit channel, the processing performed in the receiver may be performed using analog or **digital** or some combination of analog and **digital** circuitry. The receiver will be described as if all processing was **digital** as it is in the preferred embodiment. The signal received from the shared transmission media is passed through an analog-to-**digital** converter (not shown) and the resulting **digital** data stream is passed to a demodulator 460.

Figure 26 is a more detailed diagram... ...line 461 to the analog input of an A/D converter 463. The stream of **digital** data resulting from the analog-to-**digital** conversion is simultaneously fed to two multipliers 465 and 467. Multiplier 465 receives as its other input on line 481, a stream of **digital** values that define a local carrier sine wave having the same frequency and synchronous in... ...RU transmitter section.

The results output from the demodulator on lines 469 and 471 are **digital** data streams which basically defines the mix products comprised of a fundamental carrier frequency and upper and lower sidebands. **Digital** filters 473 and 475 filter out the desired sidebands that contain the real and **imaginary** parts of each chip or result point that was transmitted. The stream of quadrature or **imaginary** components of the received chips are output on bus ...interpret the data transmitted by the RUs.

In some embodiments, the streams of real and **imaginary** components of the 144 chips of each symbol on buses 477 and 479 are stored... ...Demultiplexer 462 in Figure 19. The COMA Demultiplexer 462 multiplies each of the real and **imaginary** component arrays times the transpose of the code matrix used by the CDMA MUX 408... ...process. This matrix multiplication process results in two linear arrays of decoded chip real and **imaginary** parts for each symbol. These arrays are stored by the CDMA Demultiplexer 462 in memory 464. In alternative embodiments, the CDMA Demultiplexer processes the two streams of real and **imaginary** components "on the fly" such that they do not have to be first stored as... ...in a memory in the CDMA Demultiplexer 462.

After the linear arrays of real and **imaginary** components for a symbol are stored in memory 464, the result for each symbol is... ...of received chip points in a received chip space having a real axis and an **imaginary** axis. The mapping by orthogonal code transformation from the constellation of possible input points shown... ...what the actual tribits transmitted were. Viterbi Decoders are well known in the art of **digital** communications, and no further details will be given here. This Viterbi algorithm could be carried out by a programmed **digital** computer if slow speed is enough or by a dedicated hardware circuit if speed is... ...used by Qualcomm, Inc. in San Diego in cellular phone systems to combat noise in **digital** cellular phone transmissions, and the details of their patents and products are hereby incorporated by...to noise could not be used. In some systems with large numbers of channels of **digital** data to send, there are only one or a few code sets which have enough... ...inputs 502 and has a plurality of outputs 504. The inputs 502 each carry the **digital** data from one timeslot. The outputs 504 each carry the **digital** data from a randomly assigned one of the inputs, which changes periodically, and are coupled...and/or no fallback mode.

The encoded bits are divided into real (or inphase) and **imaginary** groups by dividing each encoded tribit in half and outputting the first 2 bits as... ...517i are coupled to a switching circuit 544 which also receives as inputs real and **imaginary** components of access channel information on buses 542r and 542i. During normal payload transmission operations... ...buses 542r and 542i for coupling on buses 546r and 546i, respectively. The real and **imaginary** components in each tribit on buses 546r and 546i are written into buffer 548 in... ...shufflers operate synchronously to shuffle the same timeslots to the same codes simultaneously. A timeslot **scanning** counter 601 increments from 0 to 143 in synchronism with a system clock on line... ...its activity table using circuitry not shown in Figure 28B. Bus 532 carrying the timeslot **scanning** counter output is also coupled to the framer 508, and the count on bus 532...pseudorandom shuffle table stored in memory 619, and all RU's and the CU synchronously **scan** the activity table and synchronously, pseudorandomly assign the same CDMA spreading codes to the active... ...an active timeslot than in fallback #1 mode. The addresses in table 718 are sequentially **scanned** using addresses generated on a bus 722 by a counter 720 driven by the chip clock on bus 603. The data regarding the status of each sequentially **scanned** timeslot is output on bus 724 to control logic 726. The status data on bus...real information vector and the last two bits of every Trellis encoded tribit as the **imaginary** information vector.

In Figure 28A, block 510 generates the ranging barker codes needed for the...spread by the orthogonal code multiplexer to generate individual real or inphase and quadrature or **imaginary** result vectors 409 and 413 in Figure 46 on buses 558r and 558i.

There is...562i is applied to a scaler amplifier 564 which scales the amplitude level of the **digital** numbers on buses 562r and 562i in accordance with a signal on bus 566 which... ...this scaling is to enhance performance by taking advantage of the full precision of a **digital** to analog converter 576 at the output of the transmitter. A **digital** to analog (D/A) converter has a dynamic range for its analog output. When few... ...amplifies" the incoming signal based on the activity level such that the resulting swing in **digital** values going into the D/A converter 576 causes output analog signals which swing between... ...each bus to the width and center frequency of the 6 mHz channel devoted to **digital** data communication on the coaxial cable or other media 24. The shaping filter has a... ...modulator is coupled on bus 574 (the filter/modulator 570 sums the orthogonal real and **imaginary** signals after filtering to generate a single signal on bus 574) is coupled to the input of the **digital** to analog converter 576 for conversion to an analog signal for application to the input...and negative values call for increased gain.

The signal on line 752 is converted to **digital** information by A/D converter 754 which performs IF sampling as is known in the... ...rate substantially greater than the symbol period.

The gain of the signal represented by the **digital** data output by the AID converter 754 is examined by automatic gain control (AGC) 756... ...761. The matched filter has two filters which have filter characteristics that are the mirror **image** of the squared raised cosine filter characteristics of the filters 1134 and 1136 in the... ...filter/modulator 570 shown in Figure 46. The matched filters separate the orthogonal real and **imaginary** components in the received signals and transmit them to the frame detector via buses 906... ...DFE equalizers is an adaptive FIR filter. Adaptive FIR filters and many of the other **digital** signal processing components of the circuitry disclosed herein are known and are discussed in detail in Elliott, Handbook of **Digital** Signal Processing: Engineering Applications, (Academic Press, Inc. San Diego, 1987), ISBN 0-12-237075-9... ...by CDMA MUX 766. This multiplexer multiplies the incoming data by the transpose code matrix **CT**) of the code matrix used by CDMA MUX 527 in the transmitters represented by Figure...signal on line 900 in Figure 34. This clock steering signal is input to the **digital** equivalent of an integrator in control loop 781 which serves as a loop fitter for...amplitude and phase error correction coeficients on buses 790 and 802, respectively, to control the **digital** amplification process carried out by the amplifier 788 and the phase error correction process carried... ...real or I axis coordinate and 2 bits plus a sign bit which define the **imaginary** or quadrature Q axis component. Therefore, in polar coordinates, each constellation point has an amplitude...and compares them to its own matching pseudorandom sequence. Each bit has only 2 possible **digital** values which defines 2 points in the bpsk constellation. If

the incoming points are rotated...complex numbers representing the received chips which have had the signs of their Q or **imaginary** components inverted.

The DFE filter eliminates or reduces post cursor interference by supplying a subtraction...data ordering changes of position of the barker code in the gap. data resulting from **scanning** the gap for additional unwanted pulses at the edges of the gap. This data is...Figure 24. Specifically, shaping filter/modulator 507 of Figure 46 receives inphase (real) and quadrature (**imaginary**) **digital** inputs (or analog) on buses 568r and 568i. Although, buses 568r and 568i are shown... ...bus 568i is shown as a constant amplitude spectrum 1140 of amplitude Aj)) on the **imaginary** axis in Figure 47 The direct sequence spread spectrum techniques employed in the transmitters according... ...which is established at a frequency which can be easily and conveniently achieved in a **digital** filter. The output signals of the filter are ultimately sent to **digital**-to-analog converter 576 in Figure 28A and from there to an up/down converter... ...to raise the frequency to a frequency in the middle of the band devoted to **digital** data communication to implement the CATV or cellular system supplemental services on the shared transmission... ...squared raised cosine passband filter characteristic 1144, but its filter characteristic is located in the **imaginary** plane of the frequency domain shown in Figure 48. The passband filter characteristic has a... ...mHz and is centered on an intermediate frequency Fc which is easy to attain in **digital** filter design. To insure orthogonality between the real and **imaginary** data output signals on buses 1146 and 1148, the transfer function of filter 1136 is... ...function of filter 1134.

When the baseband spectra of Figure 47 for the real and **imaginary** signal components are passed through filters 1134 and 1136, the resulting Fourier spectra of the **digital** data on buses 1146 and 1148 are as shown in Figure 48. These spectra contain all the encoded information from the real and **imaginary** information vectors encoded by the orthogonal code multiplexer 527 for reasons which will be understood by those skilled in the art'of spread spectrum systems. These **digital** signals on buses 1146 and 1148 are summed in summing circuit 1150. The result is output on bus 574 to the analog-to-**digital** converter 576 in Figure 28A for conversion to analog signals which are then raised in... ...of the CU modem is to provide a multiple-user and /or multiple-source simultaneous **digital** data communication facility over a limited bandwidth channel such as 6 megahertz to one or... ...data in the downstream direction toward the RU modems using a transmitter 1170 that uses **digital** data to modulate one or more radio frequency carriers that are transmitted over the media...schemes that will work for the downstream direction CU transmitter are QAM, SCDMA or DMT (**digital** multitone transmitter). Any of the conventional transmitters described in the books incorporated by reference herein...

Claims: ...delay to achieve frame synchronization.

7. A synchronous multiplexed central transceiver for use in a **digital** data communication system comprised of said central transceiver coupled by a shared transmission medium to... ...signals.

10. A process of synchronous time division or code division multiplexed upstream transmissions of **digital** data to a headend transceiver on the same frequency over a shared transmission medium from... ...transceiver, characterised in that it comprises the steps of:

- receiving at a remote transceiver upstream **digital** payload data from one or more sources and organizing said data into frames of symbols... ...each frame comprised of a plurality of timeslots each containing symbols derived from said upstream **digital** payload data;

- iteratively transmitting a ranging signal, and determining a transmit frame timing delay value...timing delay for subsequent upstream frame transmissions.

13. A plurality of computer data signals encoding **digital** upstream data from different sources, each computer data signal embodied in a carrier wave of... ...toward a spread spectrum receiver capable of receiving all the carrier waves and recovering the **digital** upstream data from each source,

characterised in that each computer data signal is organized in... ...data representing the summation of partial products resulting from the spreading of the spectrum of **digital** upstream data of one or more logical channels from one or more of said different...

16/3K/2 (Item 2 from file: 348) **Links**
EUROPEAN PATENTS

00312613
Noise reduction circuit of a video signal.
Schaltung zum Reduzieren des Gerausches eines Videosignals.
Circuit de reduction de bruit pour un signal video.

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	Country	Number	Kind	Date	
Patent	EP	292324	A2	19881123	(Basic)
	EP	292324	A3	19891206	
	EP	292324	B1	19930331	
Application	EP	88304624		19880520	
Priorities	JP	87125245		19870522	
	JP	8777177		19870522	
	JP	87155128		19870622	

Designated States:
DE; FR; GB;

International Patent Class (V7): H04N-005/92; ; ; H04N-005/92Abstract Word Count: 132

Type	Pub. Date	Kind	Text
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Application: English			

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Total Word Count (All Documents)			

16/3K/3 (Item 3 from file: 348) **Links**
EUROPEAN PATENTS

00309263
Noise reducing circuit for video signal.
Schaltung zur Reduzierung des Rauschens fur ein Videosignal.
Circuit de reduction de bruit pour un signal video.

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	Country	Number	Kind	Date	
Patent	EP	278786	A1	19880817	(Basic)
	EP	278786	B1	19930107	
Application	EP	88301218		19880215	
Priorities	JP	8731118		19870213	

Designated States:
DE; FR; GB;

International Patent Class (V7): H04N-005/91; H04N-005/21; ; H04N-005/91... ...H04N-005/21 Abstract Word Count: 137

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Publication: English
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Application: English

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16/3K/4 (Item 4 from file: 348) **Links**
EUROPEAN PATENTS

00224895
Adaptive television deghosting system
Adaptives System zur Entfernung von Geisterbildern im Fernsehen
Systeme adaptif d'enlevement des **images** fantomes de television
Systeme adaptif d'enlevement des **images** fantomes de television

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	Country	Number	Kind	Date	
Patent	EP	228880	A2	19870715	(Basic)
	EP	228880	A3	19890531	

	EP	228880	B1	19921125	
Application	EP	86309941		19861218	
Priorities	US	813256		19851224	

Designated States:
DE; FR; GB;

International Patent Class (V7): H04N-005/21; H04N-005/21Abstract ...for producing in-phase and quadrature-phase baseband video signals as the respective real and **imaginary** input signals to a complex IIR filter (420). Means (418) are provided for developing filter...

Abstract Word Count: 190

Type	Pub. Date	Kind	Text

Publication: English
Procedural: English
Application: English

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16/3K/5 (Item 5 from file: 348) **Links**
EUROPEAN PATENTS

00207383
Noise suppressing circuit with gain control.
Rauschunterdruckungsschaltung mit Verstarkungssteuerung.
Circuit de suppression de bruit avec commande de gain.

Patent Assignee:

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